

# The fastest, surest couplings known

JUST SLIP ADAPTOR INTO COUPLER AND PRESS CAM LEVERS DOWN

PATENT OFFICE

MAR 9 1951

DIVISIONS 81 & 82

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# OPW **KAM-OK**

QUICK COUPLING ASSEMBLIES  
couple and uncouple instantly!

No threads or lugs to engage, no twisting friction against gasket, no tools or wrenches required for a fully leakproof connection that holds fast, stays tight.

Slip on - Cams tighten - Hold tight - Never fail

RETURN TO

**DESIGN DIV.**

BRONZE • ALUMINUM • MONEL • STAINLESS STEEL • SEMI-STEEL

**PRECISION ENGINEERED  
PRECISION MADE**

# OPW **KAMLOK**

## QUICK COUPLING ASSEMBLIES

OPW KAMLOKS add extra life to hose . . . guarantee greater security in handling all types of liquids.

OPW KAMLOKS' perfectly leakproof seal is made instantly without twisting, kinking or straining of hose. Merely slip Adaptor into Coupler and press cam levers down.

OPW KAMLOKS speed delivery, save time and labor.

OPW KAMLOKS operating pressures up to 200 psi, depending on size and kind of metal.

OPW KAMLOKS can also be used on suction lines —they stay leakproof under vacuum.

OPW KAMLOKS are made of bronze, aluminum, semi-steel, monel and stainless steel. See price list or chart (Page 7) for sizes and types. Other metals may be supplied on special order.

### **ALL KAMLOKS 100% GAUGED FOR COMPLETE INTERCHANGEABILITY**

All styles of Adaptors fit in all styles of Couplers of the same size.



633-A ADAPTOR



633-B COUPLER



633-F ADAPTOR



633-B COUPLER



633-E ADAPTOR



633-B COUPLER





634-A DUST PLUG



634-A DUST PLUG



634-A DUST PLUG



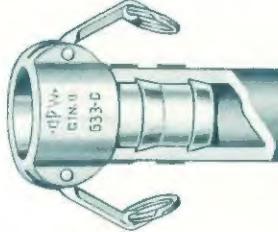
633-B COUPLER



633-D COUPLER



633-C COUPLER



Make field repairs quickly by simply slipping OPW KAMLOK Shank Type Adaptors and Couplers into hose, using any type clamp or band. Leakproof, lighter weight, easier to handle, faster, surer!

- **OPW KAMLOK** Shank Type Adaptors eliminate threaded fittings on hose, reduce weight.
- Raised ribs on shanks provide more secure banding, engage hose more firmly.
- Protective collar on Shank Type Adaptors makes smooth, flush fit of hose, prevents splitting and wearing of hose ends.



No. 633 LA  
4"



No. 633 PA  
3" x 4"



No. 633 LB  
4"



No. 633 PB  
3" x 4"



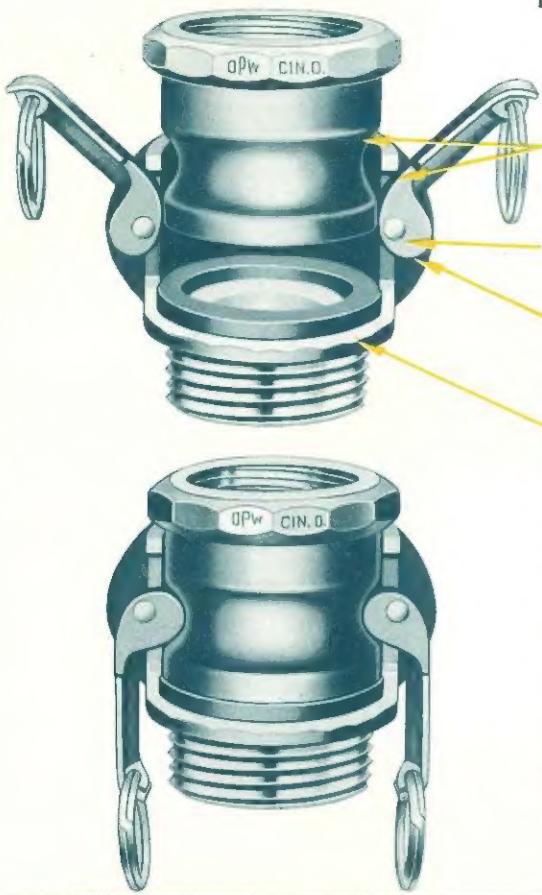
No. 633 AW  
(aluminum)  
4" x 4", 6" x 6"  
(bronze)  
3" x 3 1/8",  
3" x 3.22",  
4" x 4.22"



No. 633 DW  
(aluminum).  
3" x 3 1/4",  
4" x 4", 6" x 6",  
6" x 6 1/4"  
(bronze)  
2" x 2 1/8",  
3" x 3 1/8",  
3" x 3.22",  
4" x 4",  
4" x 4.22"

# OPW KAMLOK COUPLERS' outstanding features

FOR STURDY DURABILITY AND EASE OF HANDLING . . .  
DEPENDABLE LASTING LEAKPROOF SEAL



Heavy wall thickness throughout for extra safety. No weak spots.

Strong, durable cam arm pins will not rust or bind.

Cam arms have accurately machined surfaces for easy closing.

Recess in Coupler holds the gasket firmly in place . . . assures proper placement. Gasket cannot fall out.

Couplers and Adaptors are available from stock in bronze, aluminum, semi-steel, monel and stainless steel.

Precision machined, every Coupler and Adaptor is individually master gauged, inspected and tested to assure complete interchangeability of ALL OPW KAMLOK Couplers & Adaptors.

All mating surfaces are accurately machined to insure completely leakproof service.

Gaskets of specially compounded Buna N are standard. See Recommendation Chart Page 6 for special gaskets for special services.

## RECOMMENDED OPERATING CONDITIONS

METALS	SIZES	NORMAL OPERATING PRESSURE IN LBS./SQ. IN.	MAXIMUM OPERATING TEMPERATURE °F FOR GASKET COMPOUNDS	
			"O", "P", "Q", "S"	
ALUMINUM	½" through 2½" 3" and 4" 6"	125 100 75	225 225 225	300 * 300 * 300 *
BRONZE	½" thru 2½" 3" and 4"	125 100	225 225	450 * 450 *
MONEL	1" thru 4"	200	225	550
STAINLESS STEEL	½" thru 2", 3"	200	225	550
SEMI-STEEL	1½" and 2"	100	225	450 *

\* TEMPERATURE LIMITATIONS ARE DETERMINED BY METAL, RATHER THAN GASKET MATERIAL.

## RECOMMENDATION CHART FOR CHEMICAL SERVICE

	SEMI STEEL	STAINLESS STEEL	MONEL	BRONZE	ALUMINUM	GASKET COM- POUND SYM.
Acetate Solvents, Crude			X	X	X	P
Acetate Solvents, Pure		X	X	X	X	P
Acetic Acid, Crude	X					O
Acetic Acid, Pure	X	X			X	O
Acetic Acid Vapors	X					O
Acetic Anhydride	X	X			X	P
Acetone	X	X	X	X	X	P
Acetylene	X	X	X		X	O
Alcohols	X	X	X	X	X	O
Aluminum Sulfate			X			O
Alums			X			O
Ammonia Gas	X	X	X		X	O
Ammonium Chloride			X			O
Ammonium Hydroxide					X	S
Ammonia Liquors	X	X			X	
Ammonium Nitrate	X	X			X	O
Ammonium Phosphate (Mono-Basic)			X			O
Ammonium Phosphate (Di-Basic)			X	X		O
Ammonium Phosphate (Tri-Basic)	X	X	X		X	O
Ammonium Sulfate	X		X			O
Asphalt	X	X	X	X		S
Beer			X	X	X	P
Beet Sugar Liquors	X	X	X		X	P
Benzine or Benzol	X	X	X	X	X	Q
Benzine	X	X	X	X	X	O
Borax	X	X	X			O
Boric Acid			X		X	O
Butane, Butylenes, Butadiene	X	X	X	X	X	O
Calcium Bisulfite			X			O
Calcium Chloride	X		X	X		O
Cane Sugar Liquors	X	X	X	X	X	P
Carbolic Acid or Phenol			X	X		P
Carbon Dioxide, Dry	X	X	X	X	X	O
Carbon Dioxide, Wet	X	X			X	O
Carbon Disulfide	X	X			X	Q
Carbonic Acid						
Carbonated Beverages			X		X	P
Carbon Tetrachloride			X			O
Chlorine, Dry	X		X			*
Chlorex	X	X	X			*
Chromic Acid			X			*
Citric Acid			X		X	P
Coke Oven Gas	X	X			X	*
Copper Sulfate			X			O
Core Oils	X			X		*
Cottonseed Oil	X	X	X			O
Creosote, Crude	X	X	X		X	O
Doctor Solution	X	X	X			*
Ethers			X	X	X	Q
Ethylene Glycol	X	X	X	X	X	O
Ferric Sulfate			X			O
Formaldehyde			X	X	X	O
Freon, Wet			X	X	X	O
Freon, Dry	X	X	X	X	X	O
Furfural	X		X	X	X	P
Gasoline, Sour			X		X	O
Gasoline, Refined	X	X	X	X	X	O
Gelatine			X		X	P
Glucose	X	X	X	X	X	P
Glue	X	X	X	X	X	O
Glycerine or Glycerol	X	X	X	X	X	O
Hydrocyanic Acid or Hydrogen Cyanide			X		X	*
Hydrogen Gas	X	X	X	X	X	O
Hydrogen Peroxide			X		X	O
Hydrogen Sulfide and Organic Sulfur Compounds	X	X			X	*
Hydrogen Sulfide, Wet			X		X	*
Lacquers and Lacquer Solvents			X	X	X	Q
Lime Sulfur	X	X	X			O
Magnesium Chloride			X			S
Magnesium Hydroxide	X	X	X			S
Magnesium Sulfate	X	X	X	X	X	O
Mercury	X	X	X			
Milk			X			P
Molasses	X	X	X	X	X	P
Natural Gas	X	X	X		X	O
Nitrating Acids (Sulfuric + Nitric = 1% or less)			X		X	S
Nitric Acid, Pure			X			S
Oleic Acid			X	X		Q
Oxalic Acid			X	X	X	O
Oxygen	X	X	X	X	X	O

	SEMI STEEL	STAINLESS STEEL	MONEL	BRONZE	ALUMINUM	GASKET COM- POUND SYM.
Palmitic Acid			X	X	X	O
Petroleum Oils, (Not refined)	X					O
Petroleum Oils, (Refined)	X	X	X	X	X	O
Phosphoric Acid, Pure (<45%, cold)			X			*
Phosphoric Acid, Pure (<45%)			X			*
Picric Acid (molten)	X	X				Q
Picric Acid (Aqueous Solution)			X		X	*
Potassium Chloride	X		X	X		O
Potassium Hydroxide			X			S
Potassium Sulfate	X		X	X	X	O
Propane Gas			X	X	X	O
Rosin, Dark	X	X	X		X	*
Rosin, Light			X	X		*
Shellac, Orange	X	X	X		X	*
Shellac, Bleached			X	X		*
Soda Ash or Sodium Carbonate	X	X	X			O
Sodium Bicarbonate or Baking Soda			X	X		O
Sodium Bisulfate					X	O
Sodium Chloride	X			X		O
Sodium Cyanide	X	X				S
Sodium Hydroxide	X			X		
Sodium Metaphosphate			X	X		X
Sodium Nitrate	X	X	X		X	O
Sodium Perborate and Sodium Peroxide			X	X		X
Sodium Phosphate (Mono-Basic)			X	X		*
Sodium Phosphate (Di-Basic)			X	X	X	*
Sodium Phosphate (Tri-Basic)	X	X	X			*
Sodium Silicate	X	X	X			O
Sodium Sulfate	X		X	X		O
Sodium Sulfide	X		X	X		O
Sodium Thiosulfate or "Hypo"			X			O
Stearic Acid			X	X		X
Sulfate Liquors	X	X	X			*
Sulfur	X				X	O
Sulfur Chloride					X	*
Sulfur Dioxide, Dry	X	X	X	X	X	*
Sulfur Trioxide, Dry	X	X	X	X	X	*
Sulfuric Acid (98% to fuming)	X					*
Sulfuric Acid (75-95%)	X					S
Sulfuric Acid (10-75%)					X	S
Sulfuric Acid (<10%)					X	S
Sulfurous Acid			X			*
Tar	X	X	X	X	X	O
Tartaric Acid			X	X		O
Toluene or Toluol	X		X	X	X	Q
Trichloroethylene					X	Q
Turpentine			X	X		O
Varnish			X	X		O
Vegetable Oils	X	X	X	X	X	O
Vinegar			X	X		P
Water, Acid Mine (Containing Oxidizing Salts)			X			O
Water, Acid Mine (No Oxidizing Salts)					X	O
Water, Fresh Boiler Feed, etc.	X			X	X	O
Water, Distilled (Laboratory Grade)			X			P
Water, Distilled (Return Condensate)	X	X	X	X	X	O
Water, Salt (Sea Water, etc.)					X	O
Whiskey and Wines			X			P
Zinc Chloride					X	O
Zinc Sulfate					X	O

## COMPOUND SYMBOL

Standard "O"

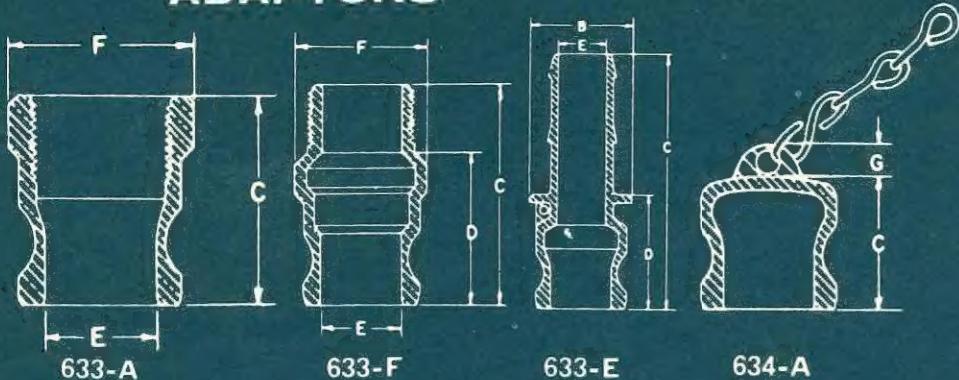
Special "P"

Special "Q"

Special "S"

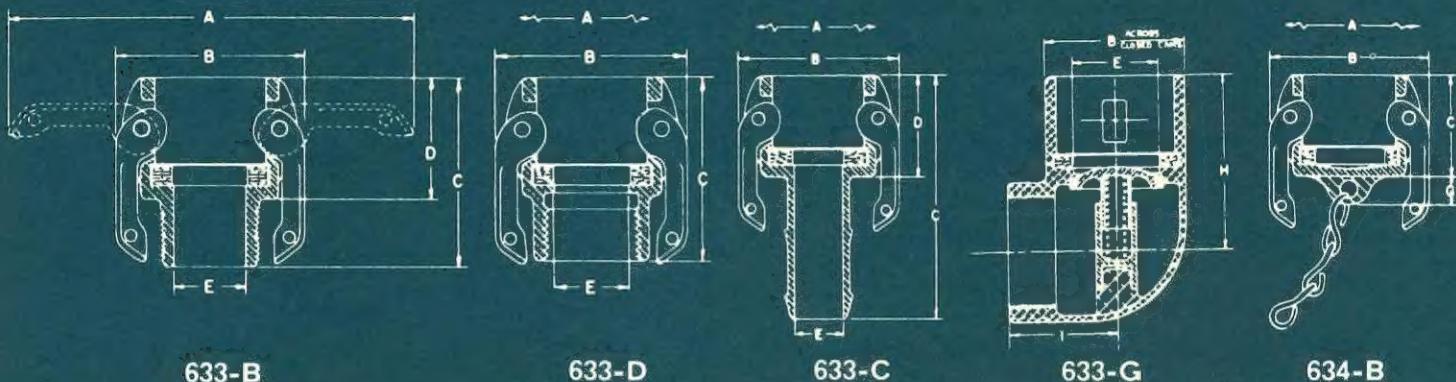
ALL RECOMMENDATIONS BASED ON PURE CHEMICAL AT NORMAL TEMPERATURE UNLESS OTHERWISE NOTED. SEE ENGINEERING DEPARTMENT FOR RECOMMENDATION ON SERVICE NOT LISTED.

## ADAPTORS



## GENERAL DIMENSIONS

## COUPLERS



CAT. NO'S.	633-A						633-B						633-C						633-D						633-E							
SIZES	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	$2$	$2\frac{1}{2}$	3	4	6	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	$2$	$2\frac{1}{2}$	3	4	6	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	$2$	$2\frac{1}{2}$	3	4	6		
A SIZE OF THREAD OR HOSE SHANK	$\frac{1}{2}$ $\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	$2$	$2\frac{1}{2}$	3	4	6	$\frac{1}{2}$ $\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	$2$	$2\frac{1}{2}$	3	4	6	$\frac{1}{2}$ $\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	$2$	$2\frac{1}{2}$	3	4	6					
A O.D. OF COUPLERS AND DUST CAP WITH CAM ARMS EXTENDED																																
B MAX O.D.																																
C OVERALL LENGTH																																
D EXPOSED LENGTH																																
E MIN. I.D.																																
F MAX. O.D. (ACROSS CORNERS OF ADAPTORS)																																
G DISTANCE THAT CHAIN LUG EXTENDS FROM BODY																																
H DISTANCE FROM C.L. TO ADAPTOR INLET OF ELBOW																																
I DISTANCE FROM C.L. TO THREADED END OF ELBOW																																

CAT. NO'S.	633-F						633-G						633-H						634-A						634-B						
SIZES	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	$2$	$2\frac{1}{2}$	3	4	6	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	$2$	$2\frac{1}{2}$	3	4	6	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	$2$	$2\frac{1}{2}$	3	4	6	
A SIZE OF THREAD OR HOSE SHANK	$\frac{1}{2}$ $\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	$2$	$2\frac{1}{2}$	3	4	6	$\frac{1}{2}$ $\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	$2$	$2\frac{1}{2}$	3	4	6	$\frac{1}{2}$ $\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	$2$	$2\frac{1}{2}$	3	4	6				
A O.D. OF COUPLERS AND DUST CAP WITH CAM ARMS EXTENDED																															
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G DISTANCE THAT CHAIN LUG EXTENDS FROM BODY																															
H DISTANCE FROM C.L. TO ADAPTOR INLET OF ELBOW																															
I DISTANCE FROM C.L. TO THREADED END OF ELBOW																															

# SPECIAL OPW KAMLOKS

No. 633-G OPW KAMLOK Coupler (90°) Elbow Female Pipe Thread with Check Valve. Check Valve holds liquid in hose when uncoupling—prevents excessive spillage.



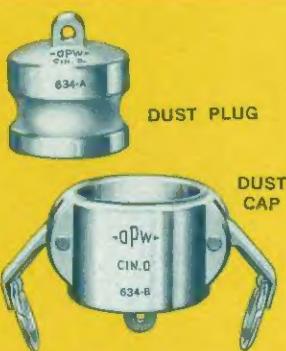
No. 633-H OPW KAMLOK Coupler (90°) Elbow Female Pipe Thread without Check Valve.

Use on outlet end of hose with drop tubes for underground tank filling. Drop tubes may be screwed directly into Coupler or fitted with Adaptors. Use with jumper hose when check valve is not desired.



No. 634-A Dust Plug  
No. 634-B Dust Cap

Protect your product against foreign matter—use Dust Plugs and Caps. Dust Caps for all Adaptors and Dust Plugs for all Couplers. They protect against contamination of fluid by preventing dirt from entering Couplers and Adaptors. They also protect Couplers and Adaptors against abrasion and damage.



**OPW KAMLOK Cam Arm**  
All OPW KAMLOK Cam Arms of extra strong construction. Replacement Cams are supplied complete with finger rings and pins. Finger rings make uncoupling easy at all times. When ordering, specify size of Coupler and body material.\* Security chains with two "S" hooks for attaching Dust Caps or Plugs to Couplers or faucets are available. Chains are 6" long.



\* For Liquid Nitrogen Service, specify malleable iron Cam Arms.



\* For Liquid Nitrogen Service, specify malleable iron Cam Arms.

### OPW KAMLOK Gasket

Standard OPW KAMLOK Gaskets are lathe cut rings of Buna N. Gasket is groove-retained inside Coupler. If replacement is needed, specify size of Coupler. Special Gaskets are available for most all services. See Recommendation Chart (Page 6).

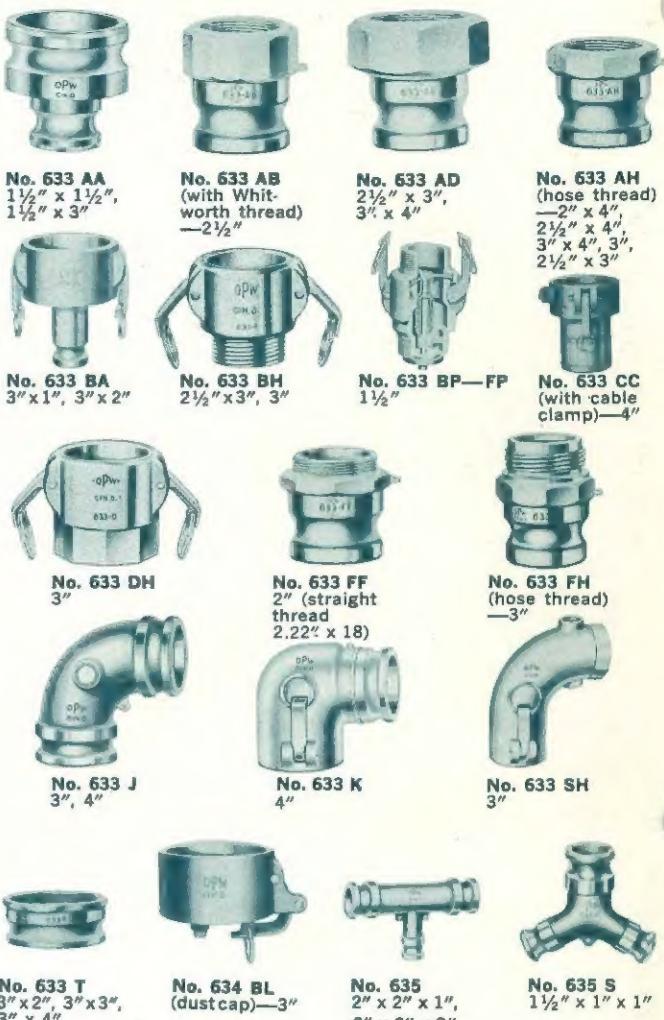


### No. 296-H Fueling Nozzle Tube

Brass tube assembly consists of male threaded adaptor and brass tube. Standard length 18". Other lengths optional on special order.

#### STOCK SIZES:

PIPE THREAD	TUBE	PIPE THREAD	TUBE
1½" x 1⅛"	O.D. — 18" long	2"	x 1⅓" O.D. — 18" long
1½" x 1⅛"	O.D. — 18" long	2"	x 2⅓" O.D. — 18" long
1½" x 1⅛"	O.D. — 18" long	3"	x 1⅓" O.D. — 18" long
2" x 1⅓"	O.D. — 18" long	3"	x 2⅔" O.D. — 18" long
2" x 1⅓"	O.D. — 18" long	3"	x 2⅔" O.D. — 18" long
2" x 1⅓"	O.D. — 18" long	3"	x 3⅓" O.D. — 18" long



PATENT OFFICE

MAR 9 1961

DIVISIONS 81 &



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